

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



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Applicant's or agent's file reference ECIP/A036WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IL2005/000352	International filing date (day/month/year) 28.03.2005	Priority date (day/month/year) 01.04.2004
International Patent Classification (IPC) or both national classification and IPC INV. H04Q11/04 H04Q7/38		
Applicant ECI TELECOM LTD. et al.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 7 sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input checked="" type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand  31.10.2005	Date of completion of this report  30.06.2006
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Gijssels, W  Telephone No. +31 70 340-4126 

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IL2005/000352

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, Pages

1-23 as originally filed

### Claims, Numbers

1-6, 8-26 filed with telefax on 31.10.2005

### Drawings, Sheets

1/2, 2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

- ☐ restricted the claims.  
☐ paid additional fees.  
☐ paid additional fees under protest.  
☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.  
☒ not complied with for the following reasons:

**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.  
☒ the parts relating to claims Nos. 1-6,8,9,11-26 .

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6,8,9,11-26
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6,8,9,11-26
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6,8,9,11-26
	No: Claims	

2. Citations and explanations

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IL2005/000352

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see separate sheet

**Re Item IV**

**Lack of unity of invention**

The search examiner distinguishes the following subjects and the groups of claims containing them:

1. Subject 1: claims 1-6,8,9,11-26
2. Subject 2: claim 10

Subject 1 (searched): claims 1-6,8,9,11-26:

Method and apparatus to selectively conduct a mobile communication session either through a mobile device or through a non-mobile device in a non-mobile access network and associated with the same mobile number of the mobile device.

Subject 2 (not searched): claim 10:

Method to re-route, during a mobile communication session, from a mobile device to a separate non-mobile device in a non-mobile communications network, or vice versa.

No special technical features are available by means of which a relationship could be established between the subject-matter as defined in the two groups of inventions mentioned above.

Consequently, neither the objective problems underlying the subject-matter of the two claimed inventions, nor their solutions as defined by the special technical features described above allow for the link of a single general inventive concept to be established between the said inventions.

The application hence does not meet the requirements of unity of invention as defined in Rule 13.1 and 13.2 PCT.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**Claim 1**

The document D1 represents the **closest prior art** and discloses a method of supporting an incoming/outgoing mobile communication session in a combined

communications network comprising a mobile network and a non-mobile access network.

The subject-matter of claim 1 **differs from D1** in that it does not disclose the method steps of: associating, in the non-mobile access network, said mobile number with a non-mobile device of said non-mobile network, said non-mobile device being either a DECT-like device or a fixed device; providing an access device in the non-mobile access network being in communication with a plurality of non-mobile devices and with a controller of a mobile network, operative to represent said non-mobile device of said plurality of non-mobile devices as having said mobile number; and selectively conducting said mobile communication session either through a mobile device associated with said mobile number in the mobile network, or through the non-mobile device associated with said mobile number in the non-mobile network.

The **problem** to be solved by the present invention may therefore be regarded as how to achieve transparent use of mobile facilities in a selected non-mobile device within a non-mobile access network.

The **solution** to this problem as defined in claim 1 of the present application is considered to involve an inventive step (Article 33(3) PCT).

Thus, the requirements (Article 33(1) PCT) of **novelty** (Article 33(2) PCT), **inventive step** (Article 33(3) PCT) and **industrial applicability** (Article 33(4) PCT) are all met.

#### **Claims 2-6,8,9,11-15**

Claims 2-6,8,9,11-15 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

#### **Claim 16**

Independent claim 16 defines an apparatus that corresponds to the method defined by the combination of the features of claim 1. Therefore, by the same reasoning as explained above, the requirements (Article 33(1) PCT) of novelty (Article 33(2) PCT), inventive step (Article 33(3) PCT) and industrial applicability (Article 33(4) PCT) are all met.

#### **Claims 17-26**

Claims 17-26 are dependent on claim 16 and as such also meet the requirements of the PCT with respect to novelty and inventive step.



**Claims:**

1. (amended) A method of supporting an incoming/outgoing mobile communication session in a combined communications network comprising a mobile network and a non-mobile access network; in said mobile network, said mobile communication session is associated with a mobile number, the method comprises:

associating, in the non-mobile access network, said mobile number with a non-mobile device of said non-mobile network, wherein said non-mobile device being either a DECT-like device, or a fixed device,

providing an access device in the non-mobile access network, being in communication with a plurality of non-mobile devices and with a controller of a mobile network, operative to represent said non-mobile device of said plurality of non-mobile devices as having said mobile number;

selectively conducting said mobile communication session either through a mobile device associated with said mobile number in the mobile network, or through the non-mobile device associated with said mobile number in the non-mobile network.

2. The method according to Claim 1, further comprising providing the access device with a capability to at least partially perform functions of a base station associated with the mobile network with respect to at least said mobile number of said mobile network, so that the access device is recognized by the controller of the mobile network as another base station.

3. The method according to Claim 2, further comprising setting defaults at said access device, for routing of communication sessions.

4. The method according to any one of the preceding claims, further comprising providing the controller of the mobile network with a capability of giving preference to routing the mobile communication session to said non-mobile device via said access device.

5. The method according to any one of the preceding claims, comprising storing the mobile number in the access device with indicating association of said mobile number with the non-mobile device of said non-mobile network.

6. The method according to any one of Claims 2 to 5, wherein said mobile telephone number is a single number to both said mobile device and said non-mobile device.

7. ~~(withdrawn) The method according to Claim 6, wherein said mobile device and said non-mobile device are one and the same device having a DECT-like functionality.~~

8. The method according to any one of claims 2 to 5, wherein the mobile device has the mobile number and the non-mobile device has a non-mobile number assigned in the access device.

9. The method according to any one of claims 6, 7, 8, comprising a step of transferring said communication session in progress from the non-mobile device to the mobile device, and vice versa.



10. (amended) A method of supporting a mobile communication session in a combined network comprising a mobile network and a non-mobile network, comprising re-routing, during said communication session, from a mobile device associated with the mobile communications network to a non-mobile device associated with the non-mobile communications network, or vice versa, wherein said mobile device and said non-mobile device are two separate devices.

11. The method according to Claims 9 or 10, wherein the step of rerouting is preceded by obtaining a suggestion to reroute the communication session

12. (amended) ~~The method according to any one of Claims 9 to 11,~~

A method of supporting a mobile communication session in a combined communications network comprising a mobile network and a non-mobile access network; in said mobile network, said mobile communication session is associated with a mobile number, the method comprises:

associating, in the non-mobile access network, said mobile number with a non-mobile device of said non-mobile network,

providing an access device, being in communication with a plurality of non-mobile devices and with a controller of a mobile network, operative to represent said non-mobile device of said plurality of non-mobile devices as having said mobile number;

selectively conducting said mobile communication session either through a mobile device associated with said mobile number in the

mobile network, or through the non-mobile device associated with said mobile number in the non-mobile network,

the method comprising a step of transferring said communication session in progress from the non-mobile device to the mobile device, and  
5 vice versa; the method further comprising a step of determining proximity of the mobile device to the non-mobile device.

13. (amended) The method according to Claim 11 ~~or 12~~, wherein the suggestion of rerouting is applied from the device presently not engaged  
10 with the communication session.

14. (amended) The method according to any one of Claims 11, ~~to~~ 13, wherein the step of obtaining the suggestion of rerouting is performed non-automatically and initiated by a user.

15 15. (amended) The method according to any one of claims 11, 13 ~~to~~ 14, wherein the step of rerouting is preceded by obtaining approval for the rerouting.

20 16. (amended) An access device of a non-mobile access network being either a DECT-like network or a fixed network, for serving in a combined communications network comprising a said non-mobile network and a mobile network,

wherein the access device being adapted to communicate with at  
25 least a plurality of non-mobile devices of the non-mobile network and a controller of a mobile network, and wherein the access device being operative to represent at least one non-mobile device of said plurality of non-mobile devices as having a mobile number of the mobile network;

wherein the access device is capable of performing, at least partially, functions of a base station of the mobile network for at least said mobile number of said mobile network, by providing an option to conduct a mobile communications session, associated in said mobile  
5 network with said mobile number, through said non-mobile device.

17. The access device according to Claim 16, wherein the mobile number belonging to said mobile network is stored in said access device as a number that is associated with a non-mobile device connected to said  
10 non-mobile network.

18. The access device according to claim 17, allowing said mobile communication session, being initially conducted through either said non-mobile device or a mobile device associated with said stored mobile  
15 number, to be continued by selectively using the other of said mobile device or said non-mobile device.

19. The access device according to any one of claims 16 to 18,

being connectable with said non-mobile access network and with a  
20 controller of said mobile network to enable digital communication,

being capable of converting communication protocols from at least one protocol used in said mobile network to at least one protocol used in said non-mobile network, and vice versa,

being provided with a functional unit performing functions similar  
25 to that of a base station of said mobile network, including:

enabling storing at the access device at least one said mobile number assigned to a mobile device, in association with at least one said non-mobile device,

monitoring and processing signaling sessions and communications sessions associated with said mobile telephone number.

5 20. The access device according to any one of Claims 16 to 19, capable of indirectly determining proximity, to said non-mobile device, of the mobile device associated with said stored mobile telephone number.

10 21. The access device according to Claim 19, capable of monitoring and processing signaling and communication sessions with respect to said non-mobile device having a non-mobile telephone number, thereby enabling versatile use of said mobile and non-mobile devices in the combined communications network, based on monitoring and processing  
15 of signaling and communication sessions in respect of both said non-mobile and said mobile telephone numbers.

22. The access device according to any one of claims 16 to 21, adapted to support rerouting of the mobile communication session, when in  
20 progress via the non-mobile device of the non-mobile network, to a corresponding mobile device of the mobile network and/or vice versa.

23. The access device according to any one of claims 16 to 22, comprising a DSLAM (Digital Signal Line Access Multiplexer),  
25 comprising a hardware/software means supporting a node B functionality, a memory means and a communications protocols converting block.

24. The access device according to any one of claims 16 to 22, comprising an OLT (Optical Line Termination), comprising a hardware/software means supporting a node B functionality, a memory means and a communications protocols converting block.

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25. A system operative to support a communication session in a combined network, the system comprising

at least one access device according to any one of claims 16 to 24,

at least one non-mobile communications network connected to

10 said access device and comprising at least one non-mobile communications device, and

at least one mobile communications network associated with at least one mobile communication device and having a controller of the mobile network connected to said access device and operative to  
15 establish digital communication with said access device.

26. The system according to Claim 25, wherein said controller of the mobile network is RNC (Radio Network Controller).

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